

REMARKS

In an office action mailed March 25, 2004, claims 31-35 and 38 have been rejected under §102/103 and claims 31-41 have been rejected under §103. In response, Applicants have cancelled claims 31-41 and added new claims 42-47. Claims 42-47 are currently pending in the application.

Claims 31-35 and 38 have been rejected under §102/§103 as being anticipated by, or in the alternative, as obvious over Van Boven et al. (J. Agric. Chem, 1993).

In response, Applicants have cancelled claims 31-35 and 38 and added new claims 42-47 which more clearly describe the invention. The claimed extract is prepared using an industrial scale process. The process is aimed at removing a particular component of simmondsins, namely, simmondsin ferulate.

As a result of the present invention, Applicants have discovered that simmondsin ferulate causes the astringent and pungent taste associated with simmondsin products. Upon removing most of the simmondsin ferulate from a simmondsin extract, the resulting product is more palatable.

According to the Examiner, Van Boven et al. disclose the preparation of simmondsin extract from deoiled jojoba meal with acetone as well as with methanol, filtration over activated carbon, and crystallization.

The Examiner contends that based upon the allegedly similar steps by which Van Boven et al. prepare a simmondsin extract, the resulting extract appears to anticipate the claimed extract. Applicants respectfully disagree.

The simmondsin extracts produced by the claimed process and that of Van Boven et al., are quite distinct. The extracts are distinct because the processes disclosed in the claimed invention and Van Boven et al., are different.

The process disclosed by Van Boven et al., requires extraction of simmondsins with acetone and methanol, a first absorption on a silica gel, a first elution, filtration over activated carbon, a second absorption on silica gel, a second elution, then drying and crystallization from an ethyl acetate/methanol solution.

In Van Boven et al., the simmondsin ferulate is the first fraction removed during the first absorption on silica gel. Thus, the subsequent activated carbon filtration step is only administered to the simmondsin fraction, and not to the simmondsin ferulate fraction.

Van Boven et al. disclose a process for the isolation of purified simmondsin from jojoba meal, on a preparative scale. See page 1808 (introduction section). The process disclosed by Van Boven et al. is discussed above. Unlike Van Boven et al., the present invention utilizes an industrial scale process.

The present invention utilizes a dissolving step by placing jojoba meal in a solvent to obtain a solvent extract containing simmondsins. The extract is then concentrated and desolventized to obtain a crude extract. The crude extract is then reacted with a carbonaceous adsorbant, and dried. The resultant extract contains from 39% to 91% simmondsins with no more than 3% simmondsin ferulate. The solvent used is water, methanol, ethanol or isopropanol.

Van Boven et al. uses acetone to extract simmondsins. Acetone yields very low amounts of simmondsins. See Table 1 of the application. Extraction using acetone yields 5.7% simmondsins. In contrast, water extraction yields 74%, methanol extraction yields 82.1%, ethanol extraction yields 71.2 to 74.6%, and isopropanol (75 and 95%) extraction yields 68.3 to 73.5%.

Therefore, because Van Boven et al. require acetone extraction, the resulting extract contains about 5.7% simmondsins. The claimed extract contains from 39% to 91% simmondsins. The amount of simmondsins in the resulting extract is of importance in the present invention because it is an industrial scale process. Van Boven et al. are not concerned with a large yield because theirs is a preparative process.

Accordingly, Van Boven et al. do not anticipate the claimed invention. Applicants respectfully request that the rejection under §102 based on Van Boven et al. be reconsidered and withdrawn.

The Examiner has also cited Van Boven et al. against the claimed invention under §103. According to the Examiner, even if the claimed simmondsin extract is not identical to the cited extract, "...the differences...are considered to be so slight that the referenced simmondsin extract is likely to inherently possess the same characteristics...particularly in view of the similar process steps." Therefore, the Examiner deems the claimed extract to be obvious in view of Van Boven et al. Applicants respectfully disagree.

As mentioned above, the process disclosed in Van Boven et al. is significantly different from the claimed process. Aside from the fact that Van Boven et al. requires acetone extraction which effects the amount of simmondsins in the resulting extract, Van Boven et al. utilize silica gel chromatography throughout their process. The use of silica gel chromatography also reduces the total yield of simmondsins in the resulting extract.

Importantly, Van Boven et al. is silent concerning the removal of simmondsin ferulate. The process of Van Boven et al. yields an extract containing a small amount of simmondsins (less than 5.7%).

The claimed extract contains between 39% to 91% simmondsins, with no more than 3% simmondsin ferulate. The extract disclosed by Van Boven et al. does not inherently or explicitly possess an extract that contains between 39% to 91% simmondsins, with no more than 3% simmondsin ferulate.

Accordingly, the claimed invention is not obvious in view of Van Boven et al. Applicants respectfully request that the rejection under §103 based on Van Boven et al. be reconsidered and withdrawn.

Claims 31-35 and 38 have been rejected under §103 as being unpatentable over U.S. Patent No. 6,007,823 to Abbott et al. According to the Examiner, Abbott et al. disclose the selective extraction of simmondsin components from deoiled jojoba meal using various polar solvents. The Examiner contends that based upon the separation/purification schemes taught by Abbott et al., the resulting product would intrinsically contain less than 3% simmondsin ferulate. Applicants respectfully disagree.

Table I of Abbott et al. illustrates and compares the composition of extracts of defatted jojoba meal (DWE) in various solvents. The amount of simmondsin ferulate (SF) in

the extracts ranges from 4.9 to 15.2% by weight. Table II of Abbott et al. does the same with various isopropanol/water solvent mixtures. The amount of simmondsin ferulate in the extracts ranges from 3.6 to 5.4% by weight.

As discussed above, the claimed invention is for an odorless and debittered simmondsins extract containing between 39% to 91% simmondsins by weight of the extract, wherein the amount of simmondsin ferulate is not more than 3% by weight of the extract. Abbott et al. do not teach a simmondsins extract containing between 39% to 91% simmondsins by weight of the extract, wherein the amount of simmondsin ferulate is not more than 3% by weight of the extract.

The Examiner contends that preparing a simmondsin-rich extract containing 90-91% simmondsin, as well as removing simmondsin ferulate therefrom, is merely deemed a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan. Applicants strongly disagree.

Applicants have discovered an industrial scale process aimed at removing a particular component of simmondsins, namely, simmondsin ferulate. Abbott et al. do not teach a simmondsins extract containing between 39% to 91% simmondsins by weight of the extract, wherein the amount of simmondsin ferulate is not more than 3% by weight of the extract, obtained by the claimed process.

Accordingly, the claimed invention is not obvious in view of Abbott et al. Applicants respectfully request that the rejection under §103 based on Abbott et al. be reconsidered and withdrawn.

Claims 31-41 have been rejected under §103(a) as being unpatentable over Abbott et al. in view of Van Boven et al. (1993), and Van Boven et al. (1994) and further in view of U.S. Patent No. 5,962,043 to Jones et al.

According to the Examiner, it would have been obvious to one of ordinary skill in the art to modify the process of Abbott et al., by incorporating one or more of the steps disclosed in the Van Boven et al., references, as well as determining a suitable amount of simmondsin extract to add to an animal feed based upon the teachings of Jones et al.

As discussed above, the claimed invention is for an odorless and debittered

simmondsins extract containing between 39% to 91% simmondsins by weight of the extract, wherein the amount of simmondsin ferulate is not more than 3% by weight of the extract.

Neither of the Jones et al. references, nor Abbott et al. teach a simmondsins extract containing between 39% to 91% simmondsins by weight of the extract, wherein the amount of simmondsin ferulate is not more than 3% by weight of the extract.

In order to establish a prima facie case of obviousness, one of the criteria to be met is that upon combining the cited references, all of the claimed limitations must be met.


Applicants have discussed the importance of the simmondsin extract containing between 39% to 91% simmondsins by weight of the extract, wherein the amount of simmondsin ferulate is not more than 3% by weight of the extract.

Since none of the cited references disclose or suggest a simmondsin extract containing between 39% to 91% simmondsins by weight of the extract, wherein the amount of simmondsin ferulate is not more than 3% by weight of the extract, the present invention is not obvious in view of the cited references.

Accordingly, Applicants respectfully request that the rejection under §103(a) based on Abbott et al., in view of Van Boven et al. (1993 and 1994), and further in view of Jones et al. be reconsidered and withdrawn.

It is now believed that the application is in condition for allowance. If the Examiner believes a telephone discussion with Applicant's representative would be helpful in resolving any remaining issues, he is invited to contact the undersigned at his convenience.

Respectfully submitted,



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